

WHAT IS CLAIMED IS:

1. A method for dewatering sewage sludge by using  
sludge-coal-oil co-agglomeration ("SOCA"), comprising the  
5 steps of:

physically, chemically or biologically conditioning  
sludge to impart hydrophobicity and lipophilicity to the  
sludge (conditioning step);

supplying oil and coal to the conditioned sludge with  
10 stirring to form sludge-coal-oil agglomerates (agglomerating  
step);

enlarging the particle diameter of sludge-coal-oil  
agglomerates (size enlargement step); and

passing the enlarged sludge-coal-oil agglomerates  
15 through a sieve to selectively separate them (screening step).

2. The method according to claim 1, wherein the  
agglomerating step is carried out by feeding coal and oil to  
the conditioned sludge while stirring at a high speed to form  
20 sludge-coal-oil agglomerates having a diameter of larger than  
500 $\mu$ m, and an operation for increasing the agglomeration force  
of the agglomerates is performed after the agglomerating step.

3. The method according to claim 1, wherein the  
25 agglomerating step is carried out by simultaneously feeding

conditioned coal and oil to the conditioned sludge.

4. The method according to claim 1, wherein the agglomerating step is carried out by separately agglomerating the conditioned sludge and conditioned coal with oil (a first agglomeration), mixing the first agglomerates, and agglomerating the mixture (a second agglomeration).

5. The method according to claim 1, wherein the agglomerating step is carried out by agglomerating the conditioned sludge with oil (a first agglomeration), adding conditioned coal and conditioned oil to the first agglomerates, and agglomerating the mixture (a second agglomeration).

6. The method according to claim 1, wherein the agglomerating step is carried out by agglomerating conditioned coal with oil (a first agglomeration), adding the conditioned sludge to the first agglomerates, and agglomerating the mixture (a second agglomeration).

7. The method according to claim 1, further comprising an operation for increasing the agglomeration force of the agglomerates by stirring the agglomerates at a low speed using an agitator, pan-disk or tumbler, after the agglomerating

step.

8. The method according to any one of claims 1 to 7,  
wherein the oil used in the agglomerating step is selected  
5 from heavy oil, light oil, kerosene, cooking oil, waste  
cooking oil, castor oil, soybean oil, hempseed oil, waste  
lubricant and mixtures thereof.

9. The method according to any one of claims 1 to 7,  
10 wherein the agglomerates are spray-washed and dewatered after  
they are selectively separated from unagglomerated materials.